

AMENDMENTS TO THE SPECIFICATION

On page 9, kindly amend the paragraph beginning on line 16 as follows:

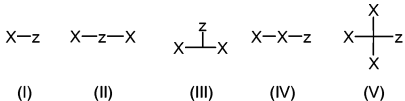
The novel surfactant systems offer at least one of and ~~preferable~~preferably all of the following advantages and characteristics:

On page 11, kindly amend the paragraph beginning on line 16 as follows:

Thus according to the present invention there is provided an emulsion comprising a dispersed phase droplet having a surfactant layer at the interface with the continuous phase wherein said surfactant layer is formed by the reaction of the wall-forming moieties of a microcapsule wall-forming material with an interface modifying compound selected from compounds having a formula (I), (II), (III) (IV) or (V)

On page 12, kindly amend the paragraph beginning on line 3 as follows:

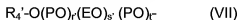
According to a further aspect of the present invention there is provided an emulsion with enhanced stability having discrete droplets of a material enclosed within an organic phase dispersed throughout a continuous aqueous phase comprising an interface between the organic phase and aqueous phase wherein the interface has a polymer resin having incorporated therein at least one interface modifying compound selected from compounds having the formula



wherein Z is a moiety that contributes to modifying the surface properties of said ~~microcapsule~~microcapsule and each X is, independently, a functional moiety capable of reacting with isocyanate and the moieties designated by lines linking the X and Z functional groups have a molecular weight of between 50 and 4000, and may be optionally substituted aryl, hydrocarbyl, or heterocyclic units, or combinations thereof, optionally containing internally linked amino, ether, thioether, acetal, ester, thioester, amide, sulphonamide, urethane, urea, carbonate, siloxane, or phosphonamide groups or combinations thereof, thereby imparting surface activity when incorporated.

On page 14, kindly amend line 10 as follows:

that the total of $r + s$ is from about 10 to about 100. It is especially preferred that r and s are independently from 0 to 25 and the total for $r + s$ is from 10 to 25. Preferably s is greater than r , for example s is preferably at least 4 times greater than r . When $-Z$ represents an ethylene oxide - propylene oxide block copolymer, it may have the structure



wherein R_4' is an end-capping group such as C_1 to C_4 alkyl, especially methyl, r' , s' and t are independently from 0 to 2000, provided that s' is not 0 and the total of $r' + s' + t$ is from about 7 to about 3000 or more preferably from about 10 to about 2000 and EO and PO represent oxyethylene and oxypropylene respectively. Preferably s' is greater than the sum of $r' + t$, for example it is preferred that s' is at least 4 times greater than the sum of $r' + t$. Preferably r' , s' and t are independently from 0 to 100, provided that the total of $r' + s' + t$ is from about 10 to about 100.

On page 15, kindly amend line 4 as follows:

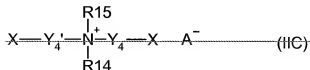
internally linked or substituted by one or more halo, amino, ether, thioether, acetal, ester, thioester, amide, sulphonamide, urethane, urea, carbonate, siloxane, or phosphonamide groups or combinations of these. Illustrative examples of ring structures which are optionally present include phenyl, naphthyl, cyclopentyl, cyclohexyl, and the like.

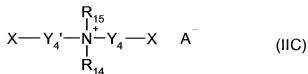
On page 16, kindly amend the paragraph beginning on line 14 as follows:

Examples of compounds of formula (IA) in which Y_1 is an alkyl linking group include taurine sodium salt $[H_2NCH_2CH_2SO_3Na]$, 2-mercaptoethanesulphonic acid $[HSCH_2CH_2SO_3H]$, 2-(dimethylamino)-ethanethiol hydrochloride $[(CH_3)_2N^+(H)CH_2CH_2SH] Cl^-$ and 3-mercaptopropionic acid $[HSCH_2CH_2CO_2H]$ and salts thereof.

On page 17, kindly amend the paragraph beginning on line 19 as follows:

Alternatively $-Z-$ in structure (II) may be quaternary ammonium. Thus for example a further preferred structure (II) has the formula (IIC)





wherein R_{14} and R_{15} , which may be the same or different are hydrogen C_1 to C_{20} straight or branched chain alkyl; aryl for example phenyl; or C_1 to C_4 aralkyl, for example benzyl, wherein each aryl group may be optionally substituted by conventional substituents such as C_1 to C_4 alkyl, nitro and halo and wherein Y_4 and Y_4' , which may be the same or different are

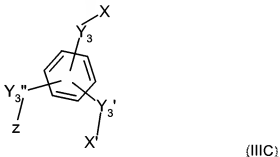
$-\text{R}_8-$

$-\text{R}_7-(\text{L}_1)_n-$

wherein R_7 , and R_8 are independently C_1 to C_{10} straight or branched chain alkyl linking groups optionally substituted by halogen or ether, for example C_1 to C_4 alkoxy and $(\text{L}_1)_n$ is a polyoxyalkylene group such as polyoxyethylene or more preferably polyoxypropylene or polyoxybutylene; n is from 2 to 20, preferably from 4 to 10 and A^- is a suitable anion.

On page 19, kindly amend the paragraph beginning on line 11 as follows:

Alternatively the groups X and Z may be joined to the ring structure via linking groups, for example the compound of structure (III) may have the formula (IIIC):-

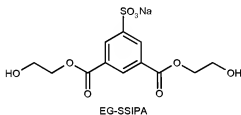


wherein Y_3 , Y_3' and Y_3'' may individually represent a direct link between X , X' or Z (as the case may be) and the ring structure or may represent one of the linking groups described above. In particular, Y_3 , Y_3' and Y_3'' may independently have the definitions for Y_2 given above.

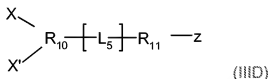
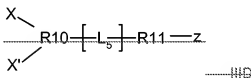
On page 20, kindly amend the page as follows:

where L_2 is an ester linking group $-C(O)-O$, R_9 is an oxyethylene, oxypropylene or oxybutylene group or polyoxyethylene, polyoxypropylene or polyoxybutylene group having a degree of polymerisation from 2 to 20. In one embodiment Y_3 represents a direct link between Z and the aryl ring and $-Y_3-$ and $-Y_3'$ are both $-(L_2)-R_9-$ as herein defined wherein R_9 is oxyethylene and X is $-OH$.

An example of a compound of formula IIIC is (iv) bis(2-hydroxyethyl)-5-soidiosulphoisophthalate ("EG-SSIPA").



A further preferred class of compound of structure III has the formula IIID:-

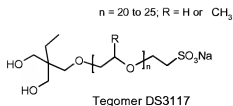


wherein R_{10} , R_{11} is a C_1 to C_8 straight or branched chain alkyl group and the two groups X and X', which may be the same or different, may be attached to the same carbon atom in the alkyl chain or to different carbon atoms in the alkyl chain, and $-L_5-$ is a linking group which is

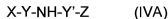
$-(L_1)_n-$ or

$-R_8-$

wherein R_8 , and $(L_1)_n$ are as defined above in relation to formula (IIIA) and R_{11} is C_1 to C_4 alkyl. As an example of a compound of formula (IIID), there may be mentioned Tegomer DS3117, a sulphonated diol supplied by Goldschmidt.



In structure (IV), the group -X- is both a linking group and is capable of reacting with the wall-forming material. It is preferred that the group -X- in structure (IV) is -NH-. Thus a general formula for a compound of structure (IV) is (IVA):-



On page 21, kindly amend the paragraph beginning on line 23 as follows:

Structure (V) is illustrated by the sulfonate polyester polyol prepared by reacting sodium sulphoisophthalic acid, adipic acid, cyclohexane dimethanol, methoxy-polyethylene glycol (M_n 750) and trimethylol propane to give a product having a hydroxyl number in the range of from 150 to 170. There may be a variation in the structural composition of the product depending on the conditions used. It will be appreciated by those skilled in the art that the reaction will produce a complex mixture of molecules and the structure (V) should not therefore be taken as an exact representation of the sulphonate polyester polyol.

On page 28, kindly amend the paragraph beginning on line 3 as follows:

The liquid may alternatively be any organic solvent that is immiscible with water, and is polar enough to dissolve the monomers, oligomers or prepolymers used to form the walls of the microcapsules... Suitable solvents are well known to those skilled in the art. By way of illustration, examples of such solvents are aromatic compounds such as xylenes or naphthalenes, especially Solvesso 200; aliphatic compounds such as aliphatic or cycloaliphatic hydrocarbons, for example hexane, heptane and cyclohexane; alkyl esters such as alkyl acetates for example Exxate 700 or Exxate 1000 and such as alkyl phthalates for example diethyl phthalate and dibutylphthalate; ketones such as cyclohexanone or acetophenone; chlorinated hydrocarbons; alcohols, such as isopropyl alcohol; and vegetable oils. The solvent may be a mixture of two or more of the above solvents. A safener for either herbicide may be present, and many such safeners or antidotes are well known in the art. Preferred types for use with haloacetanilide herbicides include dichloroacetamides such as dichloramid (N,N-diallyl dichloroacetamide); 2,2,5-trimethyl-3-dichloroacetyl oxazolidine (R-29148), N-dichloroacetyl-1-oxa-4-azaspiro[4,5]decane (AD-67); 4-

dichloroacetyl-2,3-dihydro-3-methyl-1,4-benzoxazine (CGA-154281); 1-(dichloroacetyl)hexahydro-3,3,8a-trimethylpyrrolo-[1,2-a]-p-ymidin-6(2H)-one and N-(1,3-dioxolan-2-yl-methyl)-N-(2-propenyl)-2,2-dichloroacetamide (PPG-1292). These and other dichloroacetamides are described, for instance, in U.S. Pat. Nos. 4,124,372; 4,256,481; 4,294,764; 4,448,960; 4,601,745; 4,618,361; 4,708,735 and 4,900,350. Additional known types of safeners or antidotes include certain oxime derivatives (U.S. Pat. Nos. 4,070,389 and 4,269,775, for instance), thiazole carboxylic acids and derivatives (U.S. Pat. No. 4,199,506 for instance), haloacyltetrahydroisoquinolines (U.S. Pat. No. 4,755,218, for example), aryl cyclopropane carbonitriles (U.S. Pat. No. 4,859,232, for example) and 1,8-naphthalic acid, its anhydride and derivatives. Safeners or antidotes, when included, will usually be contained in the organic or water-immiscible phase.

On page 31, kindly amend the first full paragraph as follows:

Surfactants were made by stirring at room temperature a solution of the oil phase (either solvesso 200 or methyl oleate as stated in Table 1) containing a suitable isocyanate (2% by weight of oil phase) and a suitable methyl capped PEG (polyethylene glycol) (1 mole equivalent relative to the isocyanate). The time taken for the two components to react was dependent on the nature of the isocyanate. In each case 10g of the emulsion was produced with an internal phase of 50% by weight of the EW. The oil phase was added to water under low shear (800rpm) using an Ystral X1020 mixer before being high shear mixed (3000 rpm) for 2 minutes to produce the emulsion.